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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,390	01/23/2001	Ivan Wu	JCLA6877	2449

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EXAMINER

NGUYEN, HOAN C

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 05/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/767,390

Applicant(s)

WU ET AL.

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Objections*

1. Claims 1 and 7 are objected to because of the following informalities: the feature "with a design of multidomain vertical alignment" may consider as PREAMBLE. Thus this feature should be in the claim body for clarifying the function of the pixel structure. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagae et al. (US5995190A).

In regard to claims 1-3, Nagae et al. teach (Figs. 8A-B) a pixel structure for a liquid crystal display comprising

- a first substrate, with respect to a pixel, having a W-like extruding structure composed of two V-like structures formed on a surface of the first substrate;
- a second substrate, parallel to the first substrate, having a plurality of openings, wherein the openings are aligned along a direction from a tip of the V-like structures to an edge of the pixel structure;

- a liquid crystal layer located between the first substrate and the second substrate,

wherein

- the W-like extruding structure abuts the liquid crystal layer (col. 4 lines 14-18 and col. 11 col. 31-52).
- a shape of the openings comprises an isosceles triangle, and sides of the isosceles triangle are parallel to sides of the V-like structure (Figs. 8A-B) according to claim 2.
- the aligned direction of the openings is parallel to the central line of the V-like structure (Figs 8A-B) according to claim 3.

In regard to claim 6, Nagae et al. (Fig. 30B) further teach a pixel structure for a liquid crystal display, wherein the V-like structure has a tip angle of 90 degrees.

2. Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomita et al. (US005926246A).

Tomita et al. teach (Fig. 8A, col. 10 lines 34-49) a baguette pixel structure comprising

- a first substrate with alignment layer 14 (alignment layers formed on substrates can be considered as a part of substrates) having a W-like extruding structure composed of two V-like structures (or several V-like structures) formed on a surface of the first substrate for aligning liquid crystal molecules;

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- a second substrate with alignment layer 14, parallel to the first substrate, having a plurality of openings, wherein the openings are aligned along a direction from a tip of the V-like structures and vertical to a long edge of the baguette pixel structure for rotating liquid crystal molecule  $90^\circ$  comparing to the liquid crystal alignment on the first substrate to modulate light pass through liquid crystal molecules;
- a liquid crystal layer 11a located between the first substrate and the second substrate, wherein the W-like extruding structure abuts the liquid crystal layer.

wherein a shape of the opening comprises a triangle, wherein an angle of the triangle is pointing to a tip of the V-like structures according to claim 8.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagae et al. (US5995190A).

Nagae et al. also further teach (Fig. 24) a pixel structure for a liquid crystal display, wherein the pixel structure having a shape of quadrate comprises a baguette for selecting various shape that would be at least an obvious modification (i.e., not patentably distinct) to one of ordinary skill in the art for claims 4 and 5 see Fig. 24.

### ***Respons to Arguments***

Applicant's arguments filed on November 7, 2002 have been fully considered but they are not persuasive.

Applicant's ONLY arguments are follows:

Nagae et al. and Tomita et al. fail to disclose a first substrate, with respect to the pixel, having a W-like extruding structure from the top view.

Examiner's responses to Applicants' ONLY arguments are follows:

Claims 1 and 7 do not have the feature of "a W-like extruding structure from top view". Therefore, these claims also can be understood as "a W-like extruding structure from cross-sectional view."

Besides, there is no clear disclosure of this feature in specification. In brief description of drawings (page 5):

- Fig. 2 is top view, schematically illustrating a pixel structure, according to one preferred embodiment of this invention;
- Fig. 3 is drawing, schematically illustrating the mechanism of LCD for displaying, which has a W-like extruding structure from cross-sectional view (not from top view).

If the pixel structure having "a W-like extruding structure from top view", how this structure can generate the multi-domain vertical alignment, where liquid crystal molecules should be aligned perpendicular to substrate? The alignment of liquid crystal molecules 68 shows in Fig. 2 should be parallel alignment where liquid crystal molecules 68 are aligned parallel to substrate.

**Conclusion**

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (703) 306-0472. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

HOAN C. NGUYEN  
Examiner  
Art Unit 2871

chn  
November 13, 2002

  
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